7: International Bank N. S-4 (1951) 1952 MH1 Iraq MH1

241 [387] yields. As will be indicated later, inorganic fertilizers could probably be produced cheaply in Iraq and organic fertilizers could be produced as by-products of the slaughtering industry.

231 4. Livestock Improvement

The productivity of livestock is extremely low, primarily because of inadequate feed supply. In addition to the production of fodder crops, measures should be taken to improve natural pasture lands, particularly in the northern mountains, which have generally suffered from over-grazing. Reseeding and rotational grazing are necessary. Productivity could be further raised by the establishment of shelters, better breeding methods, especially the introduction of new and improved sires and maintenance of stud stations, and by more effective control of parasitic diseases through an increase in the number of veterinarians and the provision of more extensive diagnostic facilities in the provinces.

The quality of livestock products could be raised considerably by a number of measures. One of these is an improvement in the practices and more stringent sanitary supervision of abattoirs. Others would be the establishment of a number of wool shearing and grading units under the guidance of an appropriate expert; appointment of a hides and skins expert to serve as general manager of the newly established Hides and Skins Association; and recruitment of an abattoir specialist to train local abattoir supervisors in improved methods of flaying and preserving hides and skins.

234 At present, even the major cities are without a clean, safe milk supply. The supply of milk could be substantially improved by better feeding of livestock, concentration of milking cattle in well-equipped settlements on the outskirts of cities, and central collection, transportation and processing of milk under strict sanitary controls. The possibility of cooperative collection and processing of milk should be explored.

231 [233] Since the nomads and semi-nomads, who may number from 200,000 to 500,000, account for a large proportion of the livestock in the country, particularly sheep and goats, their needs must receive special attention. Measures should be taken, for instance, to provide them with better watering facilities, sheep-dipping stations,

7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

Dairy Products

The larger towns receive their milk and milk products from cows, buffalo, sheep and goats which are kept in backyards in town or on nearby farms and settlements. The dairy cattle among them are usually of mixed or nondescript breed. While they are surprisingly well fed, their housing and the methods of milking and processing the milk are extremely primitive. The majority of municipalities appear to have sufficient legislation to ensure clean milk production, but enforcement is poor and the livestock owner is not educated to the necessity for taking more care with the production of his commodity. Baghdad, for example, has regulations to remove livestock out of the city and locate them outside of the city boundaries. It has provided livestock settlements for the milking buffalo complete with walled paddocks, running water and feeding stalls, but unfortunately with no accommodation or living quarters for the workers. Despite these facilities many livestock owners continue to keep their animals in the poorer quarter of the city, and no attempt is made by the government to demonstrate clean milk production in these settlements.

The government has taken a step in the right direction in installing a small milk pasteurizing plant in Baghdad (100-gallon flash pasteurizer), but the only milk passing through the plant is some 200-300 liters a day from the Abu Ghuraib agricultural station. Unfortunately many Baghdad residents do not even know of its existence. Some government officials have urged a larger pasteurizing plant even though the present plant is daily running considerably below capacity. The cleanliness of existing milk supplies must first be improved and producers persuaded to use the existing plant.

Another unfortunate feature of the present "backyard" herds is the fact that many dry cows and calves are sent to slaughter and only the milk producing animal is retained. Each year the dairy industry loses a great number of potentially good milk-producing animals in this way.

The following recommendations for the amelioration of the situation in Baghdad are put forward with the expectation that, if they are successfully applied there, they can be extended also to the other major cities:

T: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

234

(a) A survey of all the milk-producing animals in Baghdad and environs should be undertaken through the Veterinary and Animal Husbandry Department. This should include the number of animals, names of owners and approximate production of milk; disposal of milk, either as fluid milk or processed; estimates of seasonal variations in production; some general information on sources of feeding stuffs; list of retail dairies and details of the disposal of their products.

(b) On the basis of the information thus obtained the government should take the lead in forming a cowkeepers association or milk producers association, which will represent the trade and deal with the government in all matters affecting milk supplies. The association should have a voice in advising the government on any regulation of the retail prices of dairy products.

(c) Through the Veterinary and Animal Husbandry Department the milk producer should be shown and persuaded to adopt better feeding, breeding and management methods.

(d) Existing legislation to move the livestock out of the heart of the city to settlements and nearby farms outside the city boundaries should be enforced. Regulations forbidding adulteration of milk must also be made effective, which will presumably necessitate more adequate remuneration of medical department inspectors to prevent bribery. Adequate laboratory facilities, together with the necessary trained staff, ought to be made available for testing inspection samples.

(e) On existing or newly established livestock settlements, adequate provision must be made for housing the workers, storing feeding stuffs, and purchasing day-to-day requirements. From visits to these settlements and discussions held with the producers, it appears that they would lend themselves admirably to the formation of producers' cooperative societies. The milk could be individually produced, taken to a central collecting station on the settlement and communally transported to town for either pasteurizing or direct processing and retail to the public. The cooperative could also provide the producers with cheaper feeds bought in bulk, dairy utensils and other provisions.

(f) The existing government pasteurizing plant might also be turned into a producers' cooperative. As a first step, a government board, including selected members of the private trade, might be appointed to supervise the plant. In

7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

the second stage it might then become a complete cooperative, with the government retaining representation on the board only to the extent that its agricultural station contributed milk for pasteurization. The cooperative would of course be subject to government inspection from time to time to ensure efficient and hygienic operation.

(g) The government should explore the possibility of purchasing selected young calves and dry cows from the producers, keeping them on a selected irrigated farm outside of town, and rearing and breeding from these stock for resale to the milk producers.

(h) Measures to eliminate disease among dairy cattle, including testing for tuberculosis and brucellosis, should be inaugurated.

(i) The government should send two of its trained staff from the Veterinary and Animal Husbandry Department to see and examine the Bombay Milk Scheme, Bombay, India, in order to assist in solving the similar problems which confront the Baghdad milk industry.

If the government is prepared to carry out such an over-all campaign to organize adequate and safe milk supplies for Baghdad and later for other major cities, there is little doubt that UNICEF and FAO will be prepared to assist with machinery and technical assistance, providing a fair proportion of the resulting supplies of pasteurized milk were reserved for those groups in the population who particularly need them (children, nursing and pregnant mothers).

VII. Education and Research

It will be readily apparent that a program for the improvement of agricultural and livestock production does not necessarily involve large government investments. Most of all, it requires a well-directed, adequately staffed government service that can effectively assist the cultivator and the livestock keeper. Within this service the primary emphasis in the future must be on a field organization equipped to work directly with the producer in improving his methods and management and supported by a properly focussed, practical research program.

Such a service is unfortunately conspicuously lacking in Iraq. Within the Department of Agriculture there are less than 25

244 tables in season. Citrus fruits flourish in the irrigated areas of Kerbela province and in the Diyala river valley, while grapes, apricots and other fruits grow in various localities. Numerous species of dates are cultivated, especially in the Shatt al Arab and lower Euphrates basins: they represent one of the basic foods of the people.

511 The financial circumstances of most families prohibit the consumption of meat,
233 except at irregular intervals. Sheep and goats are raised in large numbers, both by the settled and the nomadic peoples, and constitute the principal sources of
226 meat. Fish are a valuable food among
231 the peoples living in the river valleys and along the coast. Fowl are kept in the rural
262 villages. Milk is a standard article of diet
334 wherever it is obtainable. The milk of sheep or goats is most widely used, but that of cows, water buffaloes and camels is utilized in many areas. Milk is normally consumed in the form of buttermilk or a soured milk product, known as *leban*. Cheese is also made, but it is rarely as popular as in other Arab countries. Clarified butter and the fats derived from the tail tissues of the local breeds of sheep are important sources of fat among all population groups.

262 The least diversified diets are probably found among the nomadic tribes, who subsist on the products of their herds, supplemented by dates and wheat or barley breads. Camel's milk is employed by the
[234] nomadic Bedouin. The tribal Arabs of the southern marshes depend largely upon the milk of the water buffalo, fish and wild waterfowl, rice and occasional edible rushes.

142 Measures to raise the standards of nutrition among the various urban and rural groups are being studied by educational and
165 health authorities. Improper feeding in in-
853 fancy, particularly in the course of weaning, which is often deferred until the second year of life, is a factor contributing to the
146 high mortality among young children. The
657 organization of a national nutrition committee, to function in an advisory capacity to the governmental agencies concerned, and

744 approval, but illegal slaughtering takes place in many areas. No effective control is carried out in the rural villages, where the animals are slaughtered locally.

234 744 Milk from cows and goats is marketed by large numbers of small producers. Government regulations exist for the sanitary inspection of dairies and the periodic tuberculin testing of cattle. In practice, however, few controls are exercised over the methods of production or the quality of the product. There is only one pasteurization plant in the country. This is located in Baghdad, and is operated by the government's Agriculture Department. It was established primarily for the purpose of supplying pasteurized milk to the child welfare centers, but a small percentage of its output is sold to private customers. Milk is customarily boiled before use, but butter and cheese are often vehicles for the spread of brucellosis and other diseases. Brucellosis is enzootic among the cattle and the goats, and bovine tuberculosis among the dairy herds.

234 164 232

HEALTH SERVICES AND MEDICAL FACILITIES

Health Organizations

744 657 Responsibility for the protection of the public health and for the provision of medical care facilities is centralized in the Ministry of Health of the Iraqi government, with headquarters in Baghdad. The Ministry was established in 1952, replacing the former Directorate General of Health in the Ministry of Social Affairs. Under the present organization, the Minister of Health is assisted by a Director General of Health, in charge of health and medical services, and by an Inspector General of Health. The Minister also has jurisdiction over the Royal Faculty of Medicine which administers the Royal Hospital and the Royal College of Medicine in Baghdad.

The functional activities of the Ministry are concentrated in two major divisions—curative medicine and preventive and social medicine—as well as in a number of admin-

ISTRATIVE BRANCHES.
p. 32(A)

35: Hooper and Field 2-5 (1934) 1937 MAI Iran MAI
Iraq MHI

I-I
278
825

it fully, and extols its good qualities as an alexipharmic. Linschoten devotes a chapter to the description of "Bezar stones and other stones good against poyson" and quotes da Orta's account of the origin of this biliary concretion which came from Iran. Similar stones are obtained from the cow, goat, wild boar, antelope, porcupine, and camel. That obtained from the camel is the cheapest, but that from the Persian wild goat is considered the most efficacious. The specimen cited came from Shiraz.

Goats' droppings

مامیز کری

Māmīz, Māmīz-i-kirī (Teh.).

Field 224; W.H.M.M. 150735.

The specimens consist of lumps of fecal matter, from 1 to 1.5 cm. across. Broken and examined with a lens, they were seen to be composed principally of vegetable débris. This is unusual as a drug, and not recorded in ordinary medical works of the East, but in Tehran is said to be rubbed on the chest for bronchitis.

Sheep's stomach, dried

مایه بره

Māyah-i-barrah (Isf.); sheep's stomach.

Field 8 (Isf.).

• [234] This specimen is a dried portion of a sheep's stomach, containing the active principle of the gastric juice. The name Māyah refers to ferment, leaven or rennet, and ... māyeh, "cheese producer." Rennet for preparing cheese is also obtained in the East from the stomach of hare, dog, or pig, as well as from that of the sheep and calf.

Mummy

میائی

Mūmiyāī, Mūmiyā (Pers.); Silajit (Hind.); Silajatu, "rock sweat" (Sans.); Khatmolt, Mashana churro (Bal.); Asphaltum Persicum; Asphaltum Punjabinum; Osteocolla (Lat.).

This is one of the most ancient medicines of Iran and northern India, and there has been considerable confusion regarding its origin and nature. There is no doubt that it was early associated with dead or embalmed bodies from Egyptian tombs, which were used